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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/310,024	05/11/1999	NOBUHITO MATSUSHIRO	09976-5(OB00	8270

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EXAMINER
JONES, HUGH M

ART UNIT	PAPER NUMBER
2123	4

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/310,024	Applicant(s) Matsushiro
	Examiner Hugh Jones	Art Unit 2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 11, 1999* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-8* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. Claims 1-8 of U.S. Application 09/310,024, filed 05/11/1999, are presented for examination.

Specification

2. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because it is replete with grammatical and idiomatic errors.

3. A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

4. For example, some of the sentence structure appears to be inverted. Furthermore, the phrase "on the other hand" is used. However, the usual meaning of this phrase is to describe an alternative feature or issue. This does not appear to be Applicant's intent. For example, see page 6, lines 13-14. To illustrate another example, please see the abstract which is difficult to understand.

Claim Objections

5. The following is a quotation of 37 C.F.R. § 1.75 (d)(1):

> The claim or claims must conform to the invention as set forth in the remainder of the specification and terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

6. **Claims 1- 8 are objected to because of the following.** The claims should be rewritten so as to conform to U.S. practice with respect to claim construction. In particular, the claims should include a preamble, a transitional word such as "comprising", a colon, and a listing of the claim limitations. It is further noted that there appear to be a plurality of transitional phrases (for example, claim1 recites "characterized by" [line 1]; "by performing" [line 4]). It is impossible to determine where the preambles begin and end.

7. The preambles of the independent claims should begin with "Two methods of image transform...". Claim 1, for example, appears to recite interpolation of an image to a larger image; fractal processing of an image to create a larger image and; a second magnification of either previous enlargement. Note that claim 1, for example, appears to ***recite two interpolation schemes, which are not related to each other by the claim language.*** Applicants are also reminded that a Fractal interpolation scheme is an example of the more generic interpolation scheme. Thus, such limitations are actually redundant in the sense that one is a broader version of the other. It is not until claim 2, for example, that the two interpolation schemes are tied together.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- claims 1, 6-7, for example, recites "... and having the similarity...". The meaning of the term is unknown. The similarity of what?

- claims 1, 6-7, for example, recite the limitation "and having the similarity". There is insufficient antecedent basis for this limitation in the claim.

- claim 2, for example, recites "of said two images...". However, note that there are three images 1) the original image, the generic interpolated image and the fractal transformed image. It is unknown which two of the three are being recited.

10. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in Ex parte Wu, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of Ex parte Steigewald, 131 USPQ 74 (Bd. App. 1961); Ex parte Hall, 83 USPQ 38 (Bd. App. 1948); and Ex parte Hasche, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims

1-8 (see claim 1, for example) recite the broad recitation "interpolation transormed image", and the claim also recites "fractal transformed image" which is the narrower statement of the range/limitation.

11. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. It is difficult, for example, to determine where the preambles begin and end.

Claim Interpretation

12. The Examiner interprets the invention to be magnification of images using fractal processing of the original image data. Claim 1, for example, appears to recite interpolation of an image to a larger image; fractal processing of an image to create a larger image and; a second magnification of either previous enlargement. Note that claim 1, for example, appears to ***recite two interpolation schemes, which are not related to each other by the claim language and which are not necessarily different.*** The Examiner observes that generic as well as fractal interpolation schemes are well known in the art. Applicants are also reminded that a Fractal interpolation scheme is an example of the more generic interpolation scheme. Thus, such claims are actually redundant. It is not until claim 2, for example, that the two interpolation schemes are tied together.

13. The claims will be interpreted as discussed for purposes of a prior art rejection.

No Art Rejection - Indefinite and Incomplete Claims

14. Because claims 2, 6-8 are so indefinite and incomplete, no art rejection is warrented as substantial guesswork would be involved in determining the scope and content of these claims. See In re Steele, 305 F.2d 859, 134 USPQ 292 (CCPA 1962); Ex parte Brummer, 12 USPQ 2d, page 1654; and also In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). Prior art pertinent to the disclosed invention is nevertheless cited and Applicants are reminded that they must consider all cited art under Rule 111(c) when amending the claims to conform with 35 U.S.C. 112. The Examiner respectfully submits that it would be unreasonable, if not impossible to apply art rejections against these claims in view of the 112 and 1.75 issues, as well as issues related to the specification, as discussed.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or unobviousness.

17. Claims 1, 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Barnsley et al.* or *Horowitz et al.* in view of of the taking of Official notice.

Barnsley et al. (US 5,065,447) disclose ***fractal transformation of images*** including digital image data which is automatically processed by dividing stored image data into domain blocks and range blocks. The range blocks are subjected to processes such as a shrinking process to obtain a mapped range blocks. Then, for each domain block, the mapped range block which is most similar to the domain block is determined, and the address of that range block and the processes the block was subjected to are combined as an identifier which is appended to a list of identifiers for other domain blocks. The list of identifiers for all domain blocks is called a fractal transform and constitutes a compressed representation of the input image. To decompress the fractal transform and recover the input image, an arbitrary input image is formed into range blocks and the range blocks processed in a manner specified by the identifiers to form a representation of the original input image. See figures 5-6, 9, 12-13, 19-20, 27, 29-30 and corresponding text which disclose the minutia of fractal processing of images.

Horowitz et al. disclose method is provided for the fractal representation of data in which a representative continuous n-dimensional surface is defined as a first approximation to the original data. Residual data is formed from the date and the n-dimensional surface, and is then divided into a first number of regions. For each of the first number of regions, the following steps are performed:

A number of domain regions are determined from the data; for a current one of each of the domain regions, a second representative n-dimensional surface is formed from the current domain; a (domain residual is formed from the current domain region; and the second representative n-dimensional surface, and a closest distance or error measure is determined. After processing each of the regions, the representation of data is stored. See figures 3, 15-19 and corresponding text which disclose the minutia of fractal processing of images.

18. The cited art does not disclose magnification of the image after the fractal processing. Official Notice is taken that it would have been obvious to one of ordinary skill in the art at the time of the invention to magnify the image as needed for the intended use for the following reasons. It is generally know to resize images based on the intended use. For example, the size of an image which is to be transmitted via e-mail will generally have an upper size limit. On the other hand, a image which is to be printed on poster sized paper will generally be larger than the original image so as to maintain a desired resolution.

Conclusion

19. **Any inquiry concerning this communication or earlier communications from the examiner should be:**

directed to: Dr. Hugh Jones telephone number (703) 305-0023, Monday-Thursday 0830 to 0700 ET, ***or*** the examiner's supervisor, Kevin Teska, telephone number (703) 305-9704. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

mailed to: Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 308-9051 (for formal communications intended for entry) ***or***

(703) 308-1396 (for informal or draft communications, please label "*PROPOSED*" or "*DRAFT*").

Dr. Hugh Jones

Primary Patent Examiner

September 21, 2003

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